

270

## ABSTRACT

A method for isolating a polynucleotide of interest that is present in the genome of a first mycobacterium strain and/or is expressed by the first mycobacterium strain, where the polynucleotide of interest is also absent or altered in the genome of a second mycobacterium strain and/or is not expressed in the second mycobacterium. The method includes (a) contacting the genomic DNA of the first mycobacterium strain under hybridizing conditions with the DNA of a least one clone that belongs to a bacterial artificial chromosome (BAC) genomic DNA library of the second mycobacterium strain, and (b) isolating the polynucleotide of interest that does not form a hybrid with the DNA of the second mycobacterium strain. This invention further pertains to a *Mycobacterium tuberculosis* strain H37Rv genomic DNA library, as well as a *Mycobacterium bovis* BCG strain Pasteur genomic DNA library, and the recombinant BAC vectors that belong to those genomic DNA libraries. This invention also relates to mycobacterial nucleic acids, and methods and kits for using these nucleic acids to detect mycobacteria in a biological sample.

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
[www.finnegan.com](http://www.finnegan.com)

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